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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/198,018	11/23/98	ASTLE T	130-125

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EXAMINER	
BEX,P	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary	Application No. 09/198,018	Applicant(s) Thomas W. Astel
	Examiner Patricia Kathryn Bex	Group Art Unit 1743

☒ Responsive to communication(s) filed on *Oct 20, 2000*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-30* is/are pending in the applicat

Of the above, claim(s) *19, 20, and 24-29* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-18, 21-23, and 30* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

1. The addition of claim 30 is acknowledged and has been entered into the record.

Claim Rejections - 35 U.S.C. § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9-13, 15-16 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9-10, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). In claim 10, it is not clear as to how the sealing material heat sealed to the carrier tape permits removal of the sealing material after being sealed to the carrier tape. No means for removal is provided.

Claim 15, para b, it is not clear as to how the holes between the chemical receiving wells function to evacuate the space between the wells. The specification discloses the application of a vacuum 80 to evacuate any entrapped air, see page 16, line 8-10. No such vacuum means is disclosed in the claims. Further, is it not clear as to how the evacuation is applied, i.e. through the holes?

Claim 16, line 4, recites the limitation "said pattern of said chemical receiving wells" . There is insufficient antecedent basis for this limitation in the claim.

Claim 30, line 2, recites the limitation "indexing repetitive patterns" . There is insufficient antecedent basis for this limitation in the claim. Further, it is not clear as to what applicant means by "repetitive patterns".

Claim Rejections - 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 10, 21-23 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Guigan (USP 3,620,678).

Guigan anticipates the instant claims by teaching a method of chemical compound storage comprising providing a longitudinally extending carrier tape 1,12 having thermally formed therein a plurality of chemical receiving wells 3, 13, 168 and adding to each of the chemical receiving wells a chemical compound (column 9, lines 23-30, Fig 1-3, and 9).

The liquid tight sealing material 10 placed over the chemical receiving wells is taught at (column 3, lines 18-43, Fig. 3 and Fig. 18).

The sealing material being heat sealed to the carrier tape is taught at col. 4, lines 30-38.

The tractor drive 150 for indexing repetitive patterns of wells is taught at Fig. 20.

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 4-8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guigan (USP 3,620,678) in view of Anderson (USP 5,092,466).

Guigan as discussed previously, does not disclose repetitive matrixes with a unique identifier. However, such an identifier is considered conventional in the art, see Anderson. Anderson does teach repetitive matrix with a unique identifier 22, 24 (Fig. 1). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the chemical storage apparatus of Guigan with the identification means of

Anderson, in order to reduce the costs of storage, inventory management, and distribution of a very large number of biological samples (col. 2, lines 17-23).

The sealing material heat sealed to the carrier tape is taught by Guigan at col. 4, lines 30-62.

Regarding the specific material of the carrier tape, it would have been obvious to one of ordinary skill in the art to have made the carrier tape of Guigan with the polycarbonate, polystyrene or polypropylene, in order to ensure that the carrier tape is chemically inert with respect to the substances being stored. Since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to the number of chemical receiving wells in repetitive matrixes selected from the group consisting of 8 by 12 with a spacing of 9 mm between centers, etc. It would have been an obvious matter of design choice to have made the chemical receiving wells in repetitive matrixes selected from the group consisting of 8 by 12 with a spacing of 9 mm between centers of Anderson in order to increase amount of samples which are assayed. Further, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

9. Claims 9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guigan (USP 3,620,678) in view of Hansen et al. (USP 4,565,783).

Guigan does not teach the sealing material with a pressure sensitive adhesive to adhere the sealing material to the carrier tape such as to permit removal of the sealing material after adhesion to the carrier tape. Hansen et al. do teach the sealing material with a pressure sensitive adhesive to adhere the sealing material to the carrier tape such as to permit removal of the sealing material after adhesion to the carrier tape (col. 3, lines 58-68, col. 8, lines 24-56). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided in the chemical storage apparatus of Guigan, the pressure sensitive adhesive as taught by Hansen et al. in order to prevent contamination of the device during storage and incubation (col. 2, lines 19-22).

The lower seal layer having a low melting point (polyethylene) and upper high melting point layer (polyester) joined to the seal layer is taught by Hansen et al. col. 8, lines 24-34.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guigan (USP 3,620,678) in view of Tidemann *et al* (USP 5,526,935).

Guigan does teach holes 5 perforating the carrier tape between the chemical receiving wells (column 4, lines 56-57, Fig. 1). Guigan does not teach the step of evacuating space between the seal material and the carrier tape at the time of sealing. Tidemann *et al* do teach the use of an aperture 118 to apply a vacuum to the well which evacuates the space between the seal material 120 and the carrier tape 102. (column 5, line 29-30, Fig. 2). Such a step of evacuation allows for more efficient loading of the wells with components (column 5, lines 29-30).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the method of Guigan with the step to evacuate the space between the seal material and the carrier tape, as taught by Tidemann *et al*, in order to allow for more efficient loading of the wells with components.

Response to Arguments

11. Applicant's arguments filed October 20, 2000 have been fully considered but they are not persuasive. Applicant argues in regard to claim 1, that Guigan (USP 3,620,678) does not teach wells which are thermally formed. Examiner points to the process of heat formation of the wells with a die taught by Guigan (column 9, lines 23-34). Further, no manufacturing method for "thermally forming" or "thermoforming" the wells is disclosed in the specification or the claims, the claims are drawn to method of chemical compound storage not the formation of the wells. The wells of Guigan have clearly been "thermally" formed (column 4, lines 30-39).

With respect to claim 2, applicant argues that Figures 3 and 18 do not show a liquid-tight seal material. Examiner points to column 3, lines 40-43.

With respect to claim 3, applicant believes that it is obvious that the carrier tape could not be formed into a compact roll because of the protruding reliefs. This argument is not germane to the issue since applicant has not excluded such a feature from the claims, see Figure 9, which clearly shows the carrier tape formed into rolls 40, 41 for compact storage.

With respect to claim 10, applicant argues that it is not seen that the sealing material is ever removed. Examiner points out that the limitation is drawn to the step of providing the

sealing material heat sealed to the carrier tape and the removal is a recitation with respect to the manner in which a claimed apparatus is intended to be employed and does not differentiate the claimed apparatus from the prior art apparatus satisfying the claimed structural limitations. Further, no means for removal is provided.

Conclusion

12. No claims allowed.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclose are Mihalov *et al* and Owens *et al*. They are cited of interest in that they show various methods of storage of chemical compounds with a carrier tape comprising thermoformed wells wherein a sealing material is heat sealed to the carrier tape.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Kathryn Bex whose telephone number is (703) 306-5697.

The fax number for the organization where this application or proceeding is assigned is (703) 305-7718 for official papers prior to mailing of a Final Office Action. For official papers after mailing of a Final Office Action, use fax number (703) 305-3599. For unofficial or draft papers use fax number (703) 305-7719. Please label all faxes as official or unofficial. The above fax numbers will allow the paper to be forwarded to the examiner in a timely manner.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

P. Kathryn Bex
Patent Examiner
AU 1743
December 19, 2000

T. [illegible]
PRIMARY [illegible] EXAMINER
ART UNIT ~~112~~ 1743